

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

Siemens Transportation Systems Inc

Corporation for Manufacturing Excellence (Manex)

Siemens Uses Lean To Get Green

Client Profile:

Siemens Transportation Systems is an affiliate of the global technology and engineering company Siemens AG. Based in Sacramento, California, Siemens Transportation Systems' Vehicle Division is a manufacturer of both light and heavy rail transportation systems. Current orders include trains for Los Angeles, Denver, Portland, Puerto Rico, Houston, San Diego, St. Louis, and Salt Lake City. Siemens Transportation Systems employs more than 350 people at its Sacramento facility.

Situation:

Siemens Transportation Systems (STS) has been working with the Corporation for Manufacturing Excellence (Manex), a NIST MEP network affiliate, on a regular basis to implement "World Class Manufacturing" techniques. All senior managers attended Manex's hands-on lean manufacturing seminar and understood the value of these techniques. In addition, a value stream mapping exercise (a tool for creating a material and information flow map) indicated that material control showed great potential for improving the company's productivity. STS asked Manex to facilitate a kaizen event to improve control of hazardous substances by reducing the cost of their use and disposal and to ensure compliance with hazardous waste disposal requirements.

Solution:

The week-long kaizen process analyzes each production step, identifies value-added and wasteful activities, and then makes changes that improve productivity. Kaizen events engage employees in the process of change, which makes the improvements sustainable. With kaizen, manufacturers can make improvements quickly without much capital outlay.

STS assembled an internal team to participate in the kaizen project. Members representing the safety, stores, and logistics departments and those employees who use the products attended. The team, as well as other employees, participated in a half-day seminar on the basics of lean manufacturing.

With background from the seminar and Manex's expert guidance, the team identified its goal, considered options, and determined what would be required to make the changes. By the middle of the third day, the team took action and began implementing changes.

The overhaul began with the removal of every single chemical from the plant floor. Then the team classified materials; checked expiration dates;

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established a "pharmacy" of materials to order, track, dispense, and deliver adhesives, caulk, and solvents to employees when needed; and restocked lockers. This dramatic removal was integral to the success of the program. At the end of the fifth day, the team reported dramatic improvements in waste handling and productivity. In addition, the team created a longer-term action item list and agreed to completion deadlines. As a result, STS is now positioning itself to be reclassified by the Environmental Protection Agency (EPA) as a small quantity generator instead of a large quantity generator of hazardous waste materials.

Results:

Realized an immediate return on investment of 1:7.
Reduced waste removal cost by 90 percent per shipped rail car.
Reduced pounds of waste by 25 percent and gallons of waste by 28 percent.
Cut the variety of materials classified as hazardous by 55 percent.
Eliminated all out-of-date materials from the facility and donated \$45,000 in building materials to Habitat for Humanity.

Testimonial:

"It was eye-opening, educational, and exciting to achieve such dramatic results in just a week. Manex was pivotal to our success, from building the team to working along with us to make the changes. Manex changed the way we looked at our process and helped us cut costs, improve hazardous substance handling, and increase productivity. We are implementing best practices, and an environmentally friendly philosophy is now pervasive throughout the facility."
Bruce Lorenz, Environmental Health and Safety Engineer